UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,820	03/22/2006	Cristina Gomilla	PU030274	3729

24498   7590   05/11/2010
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EXAMINER
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ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
05/11/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2010*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-14* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 03/26/2010 has been entered.

Response to Arguments and Amendments

2.   Applicant's arguments filed 03/26/2010 have been fully considered but they are not

persuasive.

3.   Applicant's have argued on page 3 that Schlockermann in view of Gomila has not taught

the selection of a film grain block from a pool of film grain blocks. However, Gomila has

clearly taught the selection of a film grain pattern (block) from a database (pool) of film grain

patterns in paragraphs 2 of section 3.1 at the bottom of page 3 "or simply stock a database for the

film grain pattern of the most common film stock to speed up the restoration process with the

highest quality" . This may have been unclear from the previously presented rejection of the

claims, but Examiner has included these further details in the discussion of the claim rejections

presented below.

4.   Since the 35 USC 101 and Double Patenting rejections have already been withdrawn, the

Examiner finds the arguments directed towards these to be moot. Additionally, Examiner has

found that the applicant has submitted the same set of claims and "remarks" for a third time with

no further arguments or amendments. In the interest of further prosecution, the Examiner

encourages further amending the presented claim language and/or providing new arguments.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schlockermann et al. ("Film Grain Coding in H.264/AVC") in further view of Gomila ("SEI

Message for Film Grain Encoding: Syntax and Results").

Instant claim 1: A method for simulating film grain in an input image block, in which film grain

has been at least partially filtered out, comprising the steps of:

(a) computing an average value of at least one image parameter for the block;

[*Schlockermann has taught the extraction, coding, and decoding of the film grain using*

parameters of the block based on local statistics (section 2.2) and the transmission of this

information via an SEI message, but does not detail what the local statistics or parameters are.

However, as part of the same project (Joint Video Team of ISO/IEC MPEG & ITU-T VCEG),

Schlockermann has cited Gomila whom further details the local statistics that are used as

parameters for the block. Gomila has taught the syntax and details of the SEI message and block

parameters on pages 2-4, and has taught on page 3 lines 9+ that the average intensity of the

blocks (b_avg) is determined to represent all the pixels in a block. It would have been obvious to

one of ordinary skill in the art at the time of the invention to utilize the SEI message and block

parameterization details of Gomila with the film grain coding method of Schlockermann with a

reasonable expectation of success in encoding, parameterizing, decoding, and simulating film

grain as have been taught by both references, since the two methods have been specifically

designed as a part of the same project.]

(b) selecting a film grain block from at least one previously established pool of film grain

blocks whose image parameter most closely matches the image parameter of the input image

block; [*Gomila has taught the selection of parameterized film grain patterns from an established*

database of patterns (section 3.1 paragraph 2 of Gomila) based on an input parameter, but

Gomila is not clear as to whether the patterns are stored in the macro-blocks. However,

Schlockermann has taught in section 2.2 and figure 2 the film grain block generation process,

and the storage of the representative film gain pattern in macroblocks for blending to the

decoded video images. Gomila has taught in sections 3.1 and 3.2 the generation of

parameterized film grain and the blending of the noise with the decoded video images. It would

have been obvious to one of ordinary skill in the art to modify the generation and retrieval of

film grain macroblocks as taught by Schlockermann that are representative of the associated

video image data with the creation of a database (pool) of noise patterns based on film stock

(each film stock or input video image has particular noise pattern associated with it) to perform

the predictable result of creating a database of noise macroblocks associated with a parameter

used for retrieval of the appropriate film grain macro-block.]

(c) blending the selected film grain block with the input image block. [*Schlockermann*

mentions the blending and shows examples and results, but does not detail the process.

However, Gomila has described the blending (including equations) of film grain (Gomila -page

3 equations 1 and 2).]

Instant claim 2: The method according to claim 1 further comprising the step of de-blocking the

selected film grain block prior to blending with the input image block. [*Gomila has taught on*

page 4 lines 34-35 that the blocks are filtered to reduce blockiness.]

Instant claim 3: The method according to claim 1 wherein the previously established film grain

blocks are organized in the at least one pool based on image intensity. [*Film grain blocks are*

parameterized and placed ("organized") into pools (See Schlockermann and Gomila) based on

the parameters of the film grain pattern.]

Instant claim 4: The method according to claim 1 further including the step of updating the at

least one pool in accordance with characteristics of the input image. [*Schlockermann has taught*

modifying the film grain blocks by an intensity value "a" that is based on the intensity of the

input image, and Gomila has taught in section 3.2 paragraph 1 the modification of the film grain

size, intensity, spatial correlation, color correlation, as well as other parameters.]

Instant claim 5: The method according to claim 3 where a different film grain block is selected

for at least one of a different color component. [*The color space and the parameterization of film*

grain blocks for each color is taught in section 3 of Gomila by the parameter flags for each color

component (param[c][i][j]).]

Instant claim 6: The method according to claim 1 further including the step of transforming the

selected block prior to the blending step. [*Blocks are decoded prior to the blending step, see*

equations 1 and 2 of Gomila ($I_{decoded}$).]

Instant claim 7: The method according to claim 1 further comprising the step of selecting a film

grain block from among a plurality of pools of film grain blocks. [*As per the discussion above,*

the film grain blocks are also parameterized by a plurality of colors (blocks are divided by

color).]

Instant claim 8: A method for simulating film grain in an input image from which the film grain

has at least been attenuated and been decomposed in into input image blocks, comprising the

steps of:

      (a) selecting a successive one of a set of input image blocks; [*The extraction and*

encoding of film (series of successive image data) that is broken down into blocks (images are

thus a succession of blocks) has been taught by Schlockermann in section 1.]

      (b) computing an average value of at least one image parameter for the successive block;

[*As per the discussion of claim 1 the determination of average parameters for each block in*

order to select a previously established film grain model has been taught by Schlockermann in

view of Gomila).]

(c) selecting, from among at least one pool of previously established film grain blocks, a film grain block having image parameter most closely matches the average value of the at least one image parameter of the successive block; [*See the discussion of claim 1.*]

(d) repeating steps (a)-(c) for all the pixel blocks in the image; and [*Additionally, Schlockermann has taught that this method is performed for all macroblocks of the image (section 1).*]

(e) blending the selected film grain blocks to yield an output image with film grain. [*See the discussion of claim 1.*]

Instant claim 9: The method according to claim 8 wherein the previously established film grain blocks are organized in the at least one pool based on image intensity. [*As per the discussion of claim 3 this limitation has been taught.*]

Instant claim 10: The method according to claim 8 further including the step of updating the at least one pool of pre-established film grain blocks in accordance with characteristics of the input image. [*Schlockermann has taught modifying the film grain blocks by an intensity value "a" that is based on the intensity of the input image, and Gomila has taught in section 3.2 paragraph 1 the modification of the film grain size, intensity, spatial correlation, color correlation, as well as other parameters.*]

Instant claim 11: The method according to claim 8 where a different film grain block is selected for at least one of a different color component. [*The color space and the parameterization of*

film grain blocks for each color is taught in section 3 of Gomila by the parameter flags for each

color component (param[c][i][j]).]

Instant claim 12: The method according to claim 7 further including the step of transforming the

selected block prior to repeating steps (c)-(d). [*As per the above discussion of claim 8 and the*

teachings of Gomila (see claim 6) wherein the transformation of at least the current block is

performed prior to the blending.]

Instant claim 13: The method according to claim 8 further comprising the step of selecting a

film grain block from among a plurality of pools of film grain blocks. [*See the discussion of*

claim 7.]

Instant claim 14: The method according to claim 8 further comprising the step of de-blocking

the successive film grain block prior to repeating steps (c)-(d). [*Gomila has taught on page 4*

lines 34-35 that the blocks are filtered to reduce blockiness.]

Contact Information

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The

examiner can normally be reached on Monday through Friday from 10:00 am to 6:30 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vu Le, can be reached on 571-272-7332. The fax phone number for the organization

where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/NATHAN BLOOM/
Examiner, Art Unit 2624

/Vu Le/
Supervisory Patent Examiner, Art Unit 2624